

## CHAPTER 4. Qualification Provisions

This section identifies the qualification provisions including the methods used to ensure that the requirements in Section 3 have been met.

COE Software will be qualified through formal validation tests of the SRS level requirements. The Qualification Methods applied to the software shall include Test (T), Demonstration (D), Analysis (A), and Inspection (I).

- **Test:** A qualification method that is carried out by operation of the item/component/interface (or some part of the computer software configuration item, etc.), and that relies on the collection and subsequent examination of data; the collection of data can be done using instrumentation or other special test equipment.
- **Demonstration:** A qualification method that is carried out by operation of the Item/component/interface (or some part of the software configuration item, etc.), and that relies on observable functional operation not requiring the use of elaborate instrumentation or special test equipment.
- **Analysis:** A qualification method that is carried out by the processing of accumulated data. An example of accumulated data is the compilation of data obtained from other qualification methods. Examples of the processing of accumulated data are interpretations or extrapolations made from the data. Examples are reduction, interpretation, or extrapolation of test results.
- **Inspection:** A qualification method that is carried out by visual examination, physical manipulation, or measurement to verify that the requirements have been satisfied. This may involve the visual examination of code, documentation, etc.

Special qualification methods may also be applied to the item/component/interface (or some part of the software configuration item, etc.), such as special tools, techniques, procedures, facilities, and acceptance limits.

### 4.1 *Qualification Provisions for Management and System Administration Services*

The System Administration Segment and the application supplied control and display “pages” need to be tested with each hardware platform and the associated operating system version.

### 4.2 *Qualification Provisions for Security (including Security Administration Services)*

Qualification methods such as demonstrations, tests, analysis, inspection and any other special tools, techniques, procedures have not been determined at this time to be employed to ensure that the security requirements have been met.

Security testing of the COE shall be accomplished in accordance with Department of Defense Directive 5200.28 (DOD, 1988).

Security testing for a system high mode of operations shall include the following:

- The security mechanisms of COE components shall be tested and found to work as claimed in the system documentation.
- Testing shall be done to assure that there are no obvious ways for an unauthorized user to bypass or otherwise defeat the security protection mechanisms of the COE.
- Testing shall also include a search for obvious flaws that would allow violation of resource isolation, or that would permit unauthorized access to the audit or authentication data.

In addition to that for system high, security testing for a MLS environment shall include the following:

- A team of individuals who thoroughly understand the specific implementation of the COE security services shall subject its design documentation, source code (if available), and object code to thorough analysis and testing. This team's objectives are to:
  - Uncover all design and implementation flaws that would permit a subject external to the COE security services to read, change, or delete data normally denied under the mandatory or discretionary security policy enforced by the COE
  - Assure that no subject (without authorization to do so) is able to cause the COE security services to enter a state such that they are unable to respond to communications initiated by other users.
- The COE security services shall be found to be relatively resistant to penetration.
- All discovered flaws shall be corrected and the COE security services retested to demonstrate that they have been eliminated and that new flaws have not been introduced.

### **4.3    *Qualification Provisions for Presentation services***

Each of the Presentation Services modules must be tested with each type of hardware platform and with each type of operating system.

Once a user determines that he/she has a need for a Multimedia module, he/she should consult the "best of breed" process, ensuring this is compatible with other requirements, such as those represented in office automation requirements.